Playgrounds for "All" Children

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Abstract

This article describes the inclusion challenge children with special needs face on playgrounds and public parks with universal design guiding the rights of children both with and without special needs to have play opportunities. This study evaluated 68 public school elementary playgrounds to determine whether they met Section 502 guidelines for accessibility, and whether the playground equipment on these playgrounds had been modified so that children with and without special needs could play together.

Introduction

Play is an integral part of a child's early years. Many levels of play opportunities exist for children for mental, social, and physical growth. Offering playing inclusive environments leads to social interactions that provides all children chances to have creative moments that occur only through play experience. The law requires provisions that incorporate play and playgrounds as being beneficial to all children. Whether developers meet the requirements for playgrounds, depends on knowledge of the federal guidelines.

Importance of Play

Play is essential for every child (Access to play areas, 2006). It promotes physical, mental, emotional, and social well-being. Play allows children to problem solve, communicate, share, and develop friends (Access to play areas, 2006). All children must be "included together" on a playground in order to engage in play experiences (Access to play areas, 2006). Children with special needs should also be allowed to play alone on playgrounds, if possible and if they so desire (Access to play areas, 2006). Hence, a child diagnosed with a disability should be given the same opportunities as any other child to play, as well as, to play outdoors on playgrounds (Access to play areas, 2006). Universal Design is a design that works for everybody, especially all children. After all, the law provides for them to have Universal Designed Playgrounds. Thus, playground designers, developers, healthy school workers, teachers, parents, and community should promote "inclusive play" for children to learn together or alone in a pleasant, relaxed, outdoor universal designed playground environment (Access to play areas, 2006; Morrow Jr, J. R., Jackson, A. W., & Payne, V. G., 1999).

Need for Play and Physical Activity for the Children

Children need to play, and that means every child also needs a play area to flourish in his/her play activities. In 1956, Dr. Dwight Eisenhower's administration formed the President's Council on Youth and Fitness. This span provided diverse groups a span of time to think about and focus on physical activity as being important. Even the Surgeon General's Report on Physical Activity includes "benefits of physical activity for all ages" (Morrow & et al., 1999, p.2). Though historically in America, an epidemic of childhood health problems exists related to inactivity (Morrow & et al., 1999). However, at least 20 percent of elementary schools have limited recess on their playgrounds (Tyre, 2003; Satcher, 2005; Pica, 2003).

Placing time limits on recess at schools, as well as limited outdoor playground access is not providing for all children. When time limits are set on recess at schools, as well as limiting children access to an outdoor playground, then a severe flaw exists in public education policy and society. The Right to Play, which is a global organization with the same name advancing educational games for children, supports accessible playgrounds both at elementary schools and public play spaces.

Mooney (2013) reports that Lev Vygotsky, sociocultural theorist, believed that social interaction reinforces the needs of young children through play. One of the environments to build these social interactions, as well as emotional, physical, and cognitive experiences is the playground. Thus, if we agree that children need to play, then we must realize that they also need "play spaces," such as elementary playgrounds and parks (Clements, 2000).

The American Association for the Child's Right to Play supports physical activity as recess and physical education for children with and without special needs (Satcher, 2005; Huberty, J. L., Siahpush, M., Beighle. A., Fuhrmeister, E., Silva, P., and Welk, G., 2011). Thus, the American Association for the Child's Right to Play offers volunteer state recess advocates who check on the physical activity of the children in the schools, as well as promote awareness about the need for play and playground areas throughout communities (Tyre, 2003). These supporters validate the need for children to play.

Accessibility for Playgrounds

Section 502 of the Rehabilitation Act of 1973 requires that all public facilities, and the location of programs funded with public dollars, be accessible to individuals with special needs. This act includes public school playgrounds. In Section 502, different requirements exist for public facilities depending upon whether the facility is an "existing" facility or "new construction." According to the regulations, an existing facility is any facility constructed before June 3, 1977. Specifically, recipients of public dollars must "operate its [existing] program or activity so that when viewing each part in its entirety, then it is readily accessible to handicapped persons." (34 CFR 104.22). "New construction" is defined as those facilities constructed after June 3, 1977, or any part(s) of an existing facility altered after the date of June 3, 1977. Specifically, "new construction" must "be designed and constructed in such manner that the facility or part of the facility is readily accessible to and usable by handicapped" (2010 ADA Standards for Accessible Design, p. 3).

Facilities constructed between June 3, 1977, and January 17, 1991, are deemed to be accessible if they meet the American National Standards Institute's accessibility standards. The regulations

also state that “all new construction, or alterations of existing facilities built on January 18, 1991, and thereafter, but prior to January 26, 1992, which is the effective date of the regulation implementing Title II, must be in compliance with the Uniform Federal Accessibility Standards (UFAS) or substantially equivalent standards” (City University of New York – Hunter College [Letter written August 13, 2014 to William P. Kelly]. (n.d.). and 28 CFR 35.15.

In addition to regulations from the Rehabilitation Act of 1973 requiring that playgrounds be accessible to children with special needs, the United States Department of Education has explained that Section 300.320 of the Individuals with Disabilities Education Act with least restrictive environments, includes playgrounds as part of the “general education environment.” Therefore, it is paramount that playgrounds be accessible so that children with special needs may interact with their non-disabled peers.

Universal Design for Playgrounds

The play episodes on a barrier-free playground are preferable because children with special needs can participate. Universal Designed Playground requirements provide these “barrier-free” playgrounds for all children (Able to play…2005).

The Americans with Disabilities Act of 1990 was of great importance for children with special needs; even though it was “accompanied by accessibility guidelines,” it did not include “playgrounds” (Access to play areas, 2006). However, the Universal Design for Playgrounds did address the “playground” needs of all children (Access to play areas, 2006).

Roberts (2009) indicates the American With Disabilities Act supports guidelines set in 2000 by the Access Board for Standards on Universal Access for playgrounds indicates “beyond a basic definition of accessible” (p.44), Also, he notes that “all playgrounds must comply with this,” which includes a specified number of “ramps, elevated platforms, transfer stations, and height and width requirements for all the play structures” (p.44). According to Center for Universal Design at North Carolina State University, Universal Design is, “the design of products and environments to be usable by all the people, to the greatest extent possible, without the need for adaption or specialized design” (p. 44).

If guidelines exist for children to play outdoors, and through the means of Universal Design from the National Center for Accessibility at North Carolina State University all children can play, then playgrounds should be available. The Universal Design from the National Center for Accessibility at North Carolina State University has seven guiding principles for all children to have playgrounds: 1) equitable use, 2) flexibility in use, 3) simple and intuitive use, 4) perceptible information, 5) tolerance for error, 6) low physical effort, and 7) size and space for approach of use (Roberts, 2009, p. 44). When children are given the occasion to engage with others in creative playground opportunities, they interact in activities and life experiences. Also, they are more socially acceptable and adaptable to their environments.

Playgrounds for All Children

If children are allowed to play and have playgrounds, then stakeholders must also make sure that these playgrounds provide an experience for all children to enjoy a safe and non-threatening environment. Sadly, some current playgrounds at elementary schools and parks, even those planned to be built, are not created for all children because they are not accessible to children with special needs.

According to the Keith Christensen, Director and Research Scientist of the Center for Persons with Disabilities at Utah State University, "Three principles – safety, accessibility, and inclusion should guide the design of an outdoor play environment" (Christensen (2003, p. 4). If playgrounds were provided to children as Christensen's suggests then they would give ALL young people an opportunity to play. Rogers and Sawyers (1988, p. 1-2) indicated that

> children are by nature playful. They enjoy playing and will do so whenever they can latch onto the opportunity…. as an intrinsically motivated behavior; play may be the most important process through which children learn to adapt to the world and become more mature (p. 8)

Allowing children to engage on playgrounds allow them to mature through the development of their physical, social, emotional, and cognitive skills. Some educators realize these play experiences are essential, and children with special needs deserve the same opportunities through play at elementary school playgrounds and public parks. The question remains, are playgrounds provided for children with special needs allowing them to maneuver by themselves, be inclusive or with some assistance?

If playgrounds provide for children with special needs, then the community, parents, and others must understand what these playgrounds should render, and then they should build them accordingly. Thus, they would be illustrating a better understanding of inclusion is and what accessibility can be. Therefore, Christensen (2003, p. ii) defines accessibility as "the removal of physical barriers" and inclusion as "the removal of social barriers." Christensen (2003) also explains inclusive playgrounds should include not only children in wheelchairs but all those with special needs. Dunn, Moore, and Murray (2003, p. 30) further note, that "Equipment does not wholly define a play space. How the design of space enables people to use it different ways is important." Careful thought and planning offer valued experiences for all children when applied to playgrounds.

A plan is necessary for builders and educators to study playgrounds with more depth and keen awareness (Dunn, & et al., 2003). All in all, Dunn, & et al. (2003, p. 30), continue to tell us that, "Envisaging inclusive play spaces as where children can have a chance to interact and play with each other should be the starting point when thinking through what is involved in creating inclusion by design." Finally, "Children who are included have the best chance of becoming included as adults" (Dunn, & et al., 2003, p. 12).

According to the W.K. Kellogg Foundation, "Approximately 10 percent of children in the United States have a disability that prevents them from using or enjoying most public playgrounds with their peers and siblings" (Able to play. 2005, p.1). This percentage is the major reason that public

elementary playgrounds and park playgrounds need to be accessible to ALL children. The W.K. Kellogg Foundation (Able to play…2005, p. 7), also "believes that excluding disabled children from play opportunities inhibits their potential and is a form of injustice that should be addressed" (Able to play…2005, p. 7).

Methodology

The researchers provided instruction to undergraduate students in early childhood courses and to graduate students [evaluators] in special education law courses on how to evaluate a playground for compliance with Section 502 accessibility guidelines. Also, the evaluators had instruction on how to use a checklist that listed various types of playground equipment that might be found on a playground to facilitate social-emotional, perceptual-motor, physical, sensory, and intellectual development. Also, they looked for whether specific adaptations were available to provide for accessibility for children with special needs. The evaluators were then assigned in pairs to evaluate one playground located on a public elementary school campus.

A list of public elementary school playgrounds located in a state on the Gulf of Mexico was selected randomly. All 68 playgrounds evaluated were built after 2005, because Hurricane Katrina destroyed all of them. An evaluation of the inter-observer reliability of the evaluation of playground accessibility and evaluation across the five developmental areas was conducted by having twenty-five percent of the playgrounds (n=17) evaluated by two teams. This evaluation yielded an inter-observer reliability coefficient of .90 for both the evaluation of playground accessibility and evaluation across the five developmental areas.

Results

In Table 1 are displayed the data of the question as to whether the playground layout of 68 elementary school playgrounds evaluated in this study was accessible to children with special needs. None of the 68 playgrounds were found to meet all of the playground layout accessibility criteria across all ten §502 playground layout standards, and forty-eight playgrounds (71%) were found to meet less than 50% of the playground layout accessibility criteria. As can be seen by looking at Table 1, none of the playgrounds met 100% of the playground layout accessibility criteria in any of the ten areas.

Table 1
Descriptive Data for Playgrounds meeting §502 Playground Layout Accessibility Criteria

Playground Layout Accessibility Category	Number of Criteria	Number of playgrounds where at least one applicable criterion was absent	Number of playgrounds where all applicable accessibility criteria were present	Percent of playgrounds meeting all applicable criteria
Site Location	3	39	29	43%
Parking and Curbs	3	58	10	15%
Walkways	9	65	3	4%
Surface Treatments	3	67	1	1%
Clearance	7	66	2	3%
Traffic Patterns	4	46	22	32%
Practical Aesthetics	6	65	3	4%
Play components	3	55	13	19%
Soft contained play structures	2	64	4	6%
Accessible routes	11	67	1	1%

In Table 2 are displayed the data of the question as to whether the playground equipment on the sixty-six elementary school playgrounds evaluated in this study was accessible to children with special needs. Playground equipment accessibility, in Table 2, is broken down by the eleven 502 playground equipment accessibility areas. As can be seen by looking at Table 2, none of the playgrounds met 100% of the accessibility criteria in any of the eleven areas. Also, only three playgrounds (4%) met all playground accessibility criteria across all eleven standards, and sixty-two playgrounds (91%) met less than 50% of the applicable criteria across all equipment accessibility standards.

Table 2

Descriptive Data for Playgrounds meeting §502 Playground Equipment Accessibility Criteria

Playground Equipment Accessibility Category	Number of Criteria	No. of playgrounds where criteria were N/A	No. of playgrounds where all criteria applicable	No. of playgrounds where at least one accessibility criteria was present	No. of playgrounds where one or more applicable criteria were absent	No. of playgrounds meeting all applicable accessibility criteria	Percentage of playgrounds meeting all applicable criteria
Elevated ramp run	5	16	49	6	63	5	10%
Landings - Level Surface	4	18	49	6	63	5	6%
Handrails	6	17	49	13	65	3	6%
Transfer System	3	15	50	9	60	8	16%
Transfer Platforms	6	14	52	9	66	2	4%
Transfer Steps	3	15	51	13	55	13	25%
Transfer Supports	1	17	51	13	42	9	18%
Clear Floor or Ground Space	1	3	48	17	48	17	35%
Maneuvering Space	2	2	47	12	56	5	11%
Entry Points and Seats	1	10	46	11	46	11	24%
Reach ranges (Advisory)	1	6	38	23	38	23	61%

Shown in Tables 3, 4, and 5 are descriptive data on the following two questions. First, to what extent is playground equipment provided in each of the developmental areas? Also, to what extent is a piece of playground equipment modified so that it is accessible to children with special needs when that particular playground equipment item is on the playground?

In Table 3 is the number and types of equipment found across the 68 playgrounds observed. The selections are whether space had developmental areas and the percentage of playgrounds where a particular type of play equipment existed and if it was modified so that children with special needs had access.

Table 3
Descriptive Data for Play Equipment by Developmental Area by Modifications for Disability Accessibility

Play Equipment	Modifications	No. of Playgrounds with Equipment Present	No. of Playgrounds with Modifications Present	No. of Playgrounds with all Modifications for Equipment	Percentage of Playgrounds with all Modifications for Equipment
Social Emotional Development					
Thirty-eight playgrounds had at least one piece of playground equipment in the intellectual development area.					
Work/Play Tables		13		5	38%
	• Space for a wheel chair		10		
	• Textured surface design		7		
	• Play tables are located on an accessible route with wheelchair knee clearance minimums of: •24 inches (610 mm) high •17 inches (430 mm) deep		4		
Sand Tables/Box		9		0	0%
	• Space for a wheel chair		6		
	• Indentations around table to enable children with poor balance to stand.		1		
	• If box, backed seating is provided in corners for children with poor balance.		0		
Sand Crane		3			0%
	• Appropriate surface for a wheel chair.		1		
	• Sound generated by pulley for child with a visual impairment.		0	0	
Play Counter		7		3	43%

Play Equipment	Modifications	No. of Playgrounds with Equipment Present	No. of Playgrounds with Modifications Present	No. of Playgrounds with all Modifications for Equipment	Percentage of Playgrounds with all Modifications for Equipment
	• Appropriate surface and space for a wheel chair		3		
Play Hut		11		5	45%
	• Large enough to accommodate a wheel chair and 2 or 3 other children.		5		
Steering Wheel		17		4	24%
	• Steering wheel mounts at different heights so that one is accessible to children in wheel chairs.		8		
	• A horn is present so children with visual impairments may locate the steering wheel.		5		
Sympathetic Swing		2		0	0%
	• A sound-producing device is present to enable (a) children with visual impairments to locate and determine if in use, and b) children with developmental delays to learn cause and effect.		0		
Tunnel		9		0	0%
	• Ramp access is provided		0		
	• Textured areas to provide tactile orientation cues to children with visual impairments		1		

Play Equipment	Modifications	No. of Playgrounds with Equipment Present	No. of Playgrounds with Modifications Present	No. of Playgrounds with all Modifications for Equipment	Percentage of Playgrounds with all Modifications for Equipment
Basketball hoops	• Large enough to enable either an adult or 2 children to go through together.	17	8	1	6%
	• Multiple means of access		7		
	• Adjustable so that they are accessible to children in wheelchairs.		7		
	• Equipped with sound devices for children with visual impairments.		1		
Wide Slide		15		1	7%
	• Multiple access options including ramp for wheel chair.		2		
	• Installed on embankment to reduce risk of injury in case of fall.		5		

Perceptual Motor Development				
Thirty-six playgrounds had at least 1 piece of playground equipment in the perceptual motor development area.				
Tire Swing	5	*	*	*
Spring Teeter-Totter	5		3	60%
• A non-slip surface is provided at center to enable a child to lie there without slipping around.		3		
Spring rides	6		1	17%
• Provides a sound-producing device to serve as an auditory cue.		2		
• Back supports are provided on animal seats.		2		
Standard Swing	32		4	13%
• Provides a sound-producing device to serve as cue for locating and knowing when in use.		4		
Log/tire roll	0		0	0
• Provides a sound-producing device to serve as cue for locating and knowing when in use.		0		

Balance beams	9		8
• Provides a non-slip surface.		8	
Gadget panel	13		2
• Provides gadgets at different levels.		10	
• Ensures wheel chair access.		6	
• Provides tactile and auditory cues.		3	

Physical Development			
Thirty-nine playgrounds had at least 1 piece of playground equipment in the physical develop			
Hand-over-hand bars	19		3
• Constructed at different heights to enable access from wheel chair.		3	
Chinning bars	11		1
• Constructed at different heights to enable access from wheel chair.		1	
Parallel bars	12		3
• Constructed at different levels and widths to enable access by more children.		3	
Adjustable basketball hoops	6		0
• Ensures wheel chair access.		5	
• Provides a sound-producing device to serve as auditory cue.		0	
Cargo/chain/tire nets	3		3
• Provides multiple means of access.		3	
Tube and half tube slide	22		9
• Provides multiple means of access.		9	
Stairs and inclined ladders	26		3
• Ensures ramp access.		3	
Bridges	15		0
• Accessible by wheel chair where appropriate.		3	
• Provides handrails at different heights.		8	
• Provides textured surface		10	

	• Provides a sound-producing device to serve as cue for locating and knowing when in use.		0
Sensory Development			
Nine playgrounds had at least 1 piece of playground equipment in the sensory developmen			
Music Panel		2	0
	• Devices are a varying height to ensure access		2
	• Surrounding surface is wheel chair accessible.		0
Colored Panels		7	7
Bucket Table		3	0
	• Ensures wheel chair access.		3
	• Indentations around table to enable children with poor balance to stand are provided.		2

Intellectual Development			
Nineteen playgrounds had at least 1 piece of playground equipment in the intellectual develop			
Walls with colors and shapes on them.		13	5
	• Ensures wheel chair access.		5
Relief Maps		3	0
	• Ensures wheel chair access.		0
Guide Rails		14	1
	• Devices are at varying heights to ensure access.		1

Notes: This table will be made available on the Internet for viewing by readers should the manuscript be accepted for publication. Seven playgrounds had at least 1 piece of playground equipment in every developmental area.

* = No modifications necessary to provide for accessibility.indicated in Table 4, the means and frequencies show unmodified and modified playground equipment items based on developmental areas that were found on each playground across all them evaluated. In Table 4 a majority of playgrounds had unmodified equipment in all developmental areas. However, it may also be that a majority of playgrounds did not have modified playground equipment in any developmental area. Shown in Table 5 is the mean number of developmental areas having modified playground equipment per playground across all playgrounds, and the frequency of developmental areas addressed by modified playground equipment across all playgrounds.

Table 4
Play equipment, unmodified and modified, on playground by developmental areas

	Developmental Areas									
	Social Emotional		Perceptual Motor		Physical		Sensory		Intellectual	
	U	M	U	M	U	M	U	M	U	M
Mean number of playground items per playground	1.5	0.3	1.0	0.3	1.7	0.3	0.2	0	0.4	.1
Frequency of play items per playground										
0	30	54	32	55	29	54	59	68	49	63
1	10	9	18	10	5	7	7	0	11	4
2	10	5	9	2	15	6	1	0	6	1
3	10	0	5	0	5	1	1	0	1	0
4	1	0	1	1	9	0				
5	5	0	3	0	2	0				
6	0	0			3	0				
7	2	0								

Note: U means unmodified and M means modified

Table 5

Developmental Areas Addressed by Modified Equipment on the Playground

Mean	**0.7**
Mode	0
Number and (Percentages) of Developmental Areas	F
0 (62%)	42
1 (23%)	16
2 (6%)	4
3 (3%)	2
4 (6%)	4
5 (0%)	0

The majority of playgrounds (68%) did not have modified playground equipment in any of the developmental areas, and only 23% of the playgrounds had modified playground equipment in one developmental area. On Table 6 are the results of Chi-square analysis for the question, "When playground equipment for non-disabled children is modified so that a child with a disability may access it?" Respectively, results of chi-square tests revealed that when play equipment is in a developmental area for children without disabilities, there is a highly significant probability ($p < .000$) that it is not modified so that children with special needs may also access the play equipment.

Table 6. χ^2 results for presence of accessible playground equipment in developmental areas.

Discussion

		Social-emotional		Perceptual-motor		Physical		Sensory		Intellectual	
		f_e	f_o	f_e	f_o	f_e	f_o	f_e	f_o	f_e	f_o
Non-disabled	Present	38	34	36	34	39	34	9	34	19	34
	Absent	30	34	32	34	29	34	59	34	49	34
Disabled	Modified	10	34	13	34	14	34	9	34	5	34
	Absent	58	34	55	34	54	34	59	34	63	34
$X^2(3)$		34.824		26.176		25.000		73.529		62.706	
Significance		.000		.000		.000		.000		.000	

Play is essential for all children. Young children need to be given opportunities for overall learning with developmentally appropriate practice to stimulate both their bodies and minds. Therefore, Play is the time that children learn primarily from each other; this time is when children may learn to: “problem solve,” “communicate,” “share,” and “develop friends,” (Access to play areas, 2006). If opportunities are not allowed for children to play such as on a playground for All children their growth and development are limited, as the children progress to adulthood.

Play and Playgrounds for All Children

Children need equal opportunities for overall learning. As discussed earlier, according to Roberts (2009) if the lack of guidelines prohibits children to play outside, then steps must be taken to allow them to do so. Universal Design from the National Center for Accessibility at North Carolina State University has seven guiding principles: 1) equitable use, 2) flexibility in use, 3) simple, intuitive use, 4) perceptible information, 5) tolerance for error, 6) low physical effort, and 7) size and space for approach of using). Also, not only do playgrounds overall need to be accessible through Universal Design, but specific equipment is needed to be provided for children with special needs to play and socially interact with all children.

Review of Findings

This study yielded results of quantitative descriptive data that evaluated whether public school elementary playgrounds met Section 502 accessibility and whether the playground equipment on these playgrounds was modified so that children with and without special needs may play together. As the results reported, the 68 playgrounds were not accessible to all children. Granted that, at lunchtime and recess, a break is provided at just one of these 68 schools for children, the social interaction placement for children with special needs and their peers can still occur but based on the time and playground equipment, it will be very limited.

All children would benefit from this time at play, especially, on a playground. Unfortunately, according to this study, the playgrounds were found not to be accessible to all children; therefore, the children are not gaining the enrichment that they need.

These results indicate that without applying Universal Design, children do not play equally on a playground if they have a disability. It also defies child development needs for all children. According to Mooney (2013), the work of the Lev Vygotsky, sociocultural theorist, supports that social interaction does reinforce the needs of young children through play. Therefore, one of the best places for children to build these social interactions, along with their emotional, physical, and cognitive involvement, is on the playground.

Rogers and Sawyers (1988, p. 1-2) stated, "Children are by nature playful. They enjoy playing and will do so whenever they can latch onto the opportunity…. as an intrinsically motivated behavior; play may be the most important process through which children learn to adapt to the world and become more mature." Playing at a playground is a child gaining maturity, at its finest. Therefore, the child with special needs should have access to play and have accessible play equipment on the playground. This study found in 68 school playgrounds play accessibility is not happening for the child with special needs.

Hence, findings of data in Table 1, displayed questions as to whether the playground layout of 68 playgrounds was accessible to children with special needs. As noted earlier, the paired university student evaluators reported that none of these playgrounds were found to meet 502 playground layout standards and 71% were found to meet less than 50% of the playground layout accessibility criteria. Furthermore, none of the 68 playgrounds studied meet 100% of the playground layout accessibility criteria in any of the ten areas (site location, parking, and curbs, walkways, surface treatments, clearance, traffic patterns, practical aesthetics, play components, soft contained play structures, accessible routes).

The results of this study yielded information that reveals to educators and others, that more than ever an extreme need exists for Universal Design of playgrounds to be implemented for the children. It is so unfortunate that children with special needs cannot have access to the 68 elementary school playgrounds.

Clements (2000), who is a researcher on outdoor play and recess, supports that children need "play spaces," such as elementary playgrounds and parks. Since playgrounds exist as these found in the study, then playgrounds should be adapted and built accessible to children with special needs, so they can play with their peers and gain significant growth and development socially, emotionally, and physically.

According to Satcher (2005) and Huberty et al. (2011), the American Association for the Child's Right to Play does support physical activity such as recess and physical education for children with and without special needs. The importance of play, noted by Tyre (2003), is that the American Association for the Child's Right to Play promotes the awareness about the need for play and playground areas in the community and provides volunteer state recess advocates who check on recess and physical activity of the children whenever possible in the schools with teachers and parents as well, and do support that all children need to Play and that Play is beneficial to all children.

Also, in Table 2, playground equipment was broken down by the eleven 502 accessibility areas. None of the playground equipment met 100% of the accessibility criteria in any of the eleven areas. Only three playgrounds (4%) met all playground accessibility criteria across all eleven standards, while sixty-two playgrounds (91%) met less than 50% of the applicable criteria across all equipment accessibility standards. These findings are alarming as discussed previously, and research supports the need for the children to play with others and not have to play alone (Access to play areas, 2006). As found in this study, if having playgrounds that do not meet accessibly for equipment, then children with special needs right to play with others is violated.

Tables 3, 4, and 5 yielded descriptive quantitative data regarding two questions: 1) To what extent is playground equipment provided in each of the developmental areas? 2) And, to what extent is a piece of playground equipment modified so that it is accessible to children with special needs when that particular playground equipment item is on the playground? Table 3 reported the number and types of playground equipment found by the paired university student evaluators in these 68 playgrounds listed as: developmental area, and the percentage of playgrounds where if the playground had a particular type of equipment the equipment was modified so that children with special needs had access to it. In Table 4 the means were given concerning the playground equipment section. As in this review of the Tables 2, 3, 4, data were provided that reveals that the playground equipment in these 68 elementary school playgrounds did not exist or and limited for the child with special needs.

The researchers in this study do recommend further research on public elementary playgrounds and playground equipment. Because of this study, hopefully, changes will take place to create awareness for communities and educators to implement Universal Design changes for special needs children's access to playgrounds, along with accessible equipment in order for all children to have the same opportunity to play together in these outdoor environments.

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